Cleft lip and Palate

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Abbreviations CL = cleft lip CP= cleft palate CLP= cleft lip and palate

Definition

It is the commonest facial congenital anomaly that start at 6th week of gestation involving various structures of the mouth and face that cause a variety of asthetic and functional problems.

Embryology

Cleft lip = failure of fusion of the medial nasal process and maxillary process.

Cleft palate = failure of fusion of two palatine processes.

Epidemiology

In the white population, cleft lip with or without cleft palate occurs in approximately1 in 1,000 live births. These entities are twice as common in
the Asian population, and approximately half as common in African Americans.

Etiology

Multi factorial

Both environmental teratogens and **genetic factors** are implicated
environmental teratogens Intrauterine exposure to the anticonvulsant phenytoin is associated with a10-fold increase in the incidence of cleft lip.
Maternal smoking during pregnancy doubles the incidence of cleft lip.
Other teratogens, such as alcohol, anticonvulsants, and retinoic acid, folate deficiencies

Genetic abnormalities

The most common syndrome associated with cleft lip and palate is van derWoude syndrome

Parents with a child with or a family history of clefting, often ask about their risk of clefts in subsequent pregnancies.

If the family has one affected child or parent with CLP, the risk of the child of the next pregnancy having CLP is 4%.

If two previous children have CLP, the risk increases to 9%,

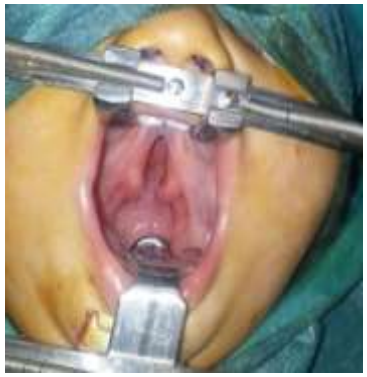
if one parent and one child were previously affected, the risk to children of subsequent pregnanciesis 17%.

Description of the deformity

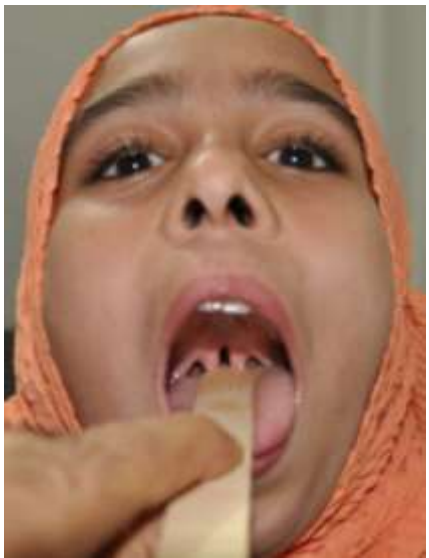
1- Cleft lip
   - A- Cleft in the lip
   - B- Cleft in the alveolar arch
   - C- Nasal deformity including absence of nasal floor

LT sided cleft lip is more common than Rt side

2- Cleft palate
   - A- Cleft of hard palate
   - B- Cleft of soft palate



C-Sub mucous cleft (defect in the muscle only) triad of deformities: a bifid uvula, a notched posterior hard palate, and muscular diastasis of the velum. The majority of patients with submucous cleft palate are asymptomatic, although approximately 15% will develop velopharyngeal insufficiency (VPI).



Classification of the deformities

Cleft lip

Either unilateral or bilateral

Unilateral cleft A- complete

B- incomplete

c- microform

Bilateral cleft e.g. RT incomplete Lt complete

Cleft Palate A- complete ,incomplete (soft palate only)

B- unilateral , bilateral

C – sub mucous cleft

Effect upon function

1-Suction and eating

Feeding is substantially affected by cleft palate deformity but less with cleft lip

2- speech

3- Teething
4- The nose
5- Hearing inflamed pharangeal mucosa and defective mucosal activity=impede ventilation and drainage of the middle ear = “glue ear”
6- Aesthetics
7- Repeated Respiratory tract infections

Diagnosis

Preterm = prenatal imaging , ultrasound evaluation

Neonatal = clinical evaluation (Submucous cleft need special attention.)

Management

Aim of management

1- Normal appearance
2- Well aligned teeth
3- Suction and feeding
4- Normal sound
5- Normal hearing

MULTIDISCIPLINARY CLEFT CARE

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Typical members of a cleft team include an audiologist, dentist, geneticist, nurse, nutritionist/dietitian, oral surgeon, orthodontist, otolaryngologist, pediatrician, plastic surgeon, psychologist, social worker, and speech pathologist.

Management according to age

Newborn	feeding assessment , medical assessment, genetic counseling, treatment information
0–3 months	Presurgical orthodontist
3 months	Primary cleft lip repair and tip rhinoplasty ±gingivoperiosteoplasty
12 months	Primary cleft palate repair ±bilateral myringotomy and tubs

What are you going to say to mother has a child born with cleft lip+_ palate= ***feeding instructons***

1- The child is abnormal and different from previous childrens and need special care.
2- The feeding should be in up right position not lying
3- The normal child need a feed every 2hr but your child need more frequent feeds
4- If normal child need 15 minutes to complete his feed your child will take longer time to complete his feeding
5- In cleft palate and some cleft lip patients it is contraindicated to breast feed the child but mother can suck her milk and use bottle to feed the child.
6- The opening of the nipple of the milk bottle is too small to feed the child so either we increase it`s size by hot needle or we choose a special kind of nipples for cleft patients.
7- Inform that choking from milk is dangerous but unavoidable so we should reduce it as much as possible because it cause repeated chest infections.

Complications

Cleft lip

1- Aesthetic problems
2- Dehiscence
3- Wound infection
4- Scar problems (keloids , hypertrophic scars)

Cleft palate

1- Wound dehiscence and fistula formation
2- VPI (velo- pharyngeal incompetence)(nasal speech)